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Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment

Note by the Secretariat

The Secretariat has the honour to transmit to the Human Rights Council the report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, John H. Knox, on the relationship between children's rights and environmental protection.

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I. Introduction

1. After reviewing the activities of the Special Rapporteur in 2017, the present report focuses on the rights of children in relation to the environment, addressing the ways that environmental harm prevents children from enjoying their human rights and the obligations that States have to protect children from such harm.

2. The Special Rapporteur held an expert meeting and a public consultation on 17–18 October on "framework principles" on human rights and the environment, which are the subject of a separate report to the thirty-seventh session of the Council (A/HRC/37/59). He carried out two country visits, to Uruguay in April and to Mongolia in September, which are also the subject of separate reports (A/HRC/37/58/Add.1 and Add.2). He sent or joined in 27 communications to States regarding alleged violations of human rights obligations relating to the environment. He worked with the United Nations Environment Programme and other partners, including the Global Judicial Institute for the Environment, to conduct a regional workshop for judges on rights-based approaches to environmental issues, which was held in Brasília on 22–23 May. A regional workshop for Asian judges is expected to take place in Pakistan in February 2018.

3. In accordance with the encouragement of the Council in its resolution 28/11 to continue to contribute to and participate in, where appropriate, intergovernmental conferences and meetings relevant to the mandate, the Special Rapporteur spoke on 31 July to the negotiators of a regional agreement on implementation of principle 10 of the Rio Declaration on Environment and Development, on rights of information, participation and remedy. He presented a statement to the sixth meeting of the parties to the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the Aarhus Convention) on 14 September, and on 4–5 December, he participated in the third session of the United Nations Environment Assembly, in Nairobi. He also spoke at the World Bank on 4 May, and at the Swedish International Development Cooperation Agency on 19 October.

4. The Special Rapporteur continues to draw attention to threats facing environmental defenders around the world. He participated in conferences on environmental defenders at the University of Oxford, in the United Kingdom of Great Britain and Northern Ireland, on 20–21 June and in Mexico City on 6 November. Together with the Universal Rights Group, he organized a meeting of environmental defenders in Bogotá on 8–9 November, at which the Spanish-language version of a web portal for environmental defenders, environment-rights.org, was launched. He also supported a new environmental rights initiative at the United Nations Environment Programme, which will, among other things, try to address threats facing individuals and groups working to protect the environment.

5. In preparation for the present report, the Special Rapporteur participated in the day of general discussion of the Committee on the Rights of the Child on children's rights and the environment, on 23 September 2016. He held an expert meeting and a public consultation on 22–23 June 2017, and sent a questionnaire to States and other interested stakeholders, which elicited over 40 responses. He also examined statements and reports of human rights mechanisms and international organizations, as well as other sources.

6. Section II of the present report reviews the increasing attention being paid to the relationship of the rights of children to environmental harm. Section III describes the severe effects of environmental harm on the rights of children. Section IV outlines the human rights obligations relating to children's rights in the environmental context. Section V addresses the relationship of future generations and children's rights. Section VI concludes with recommendations aimed at protecting the rights of children from environmental harm.

II. International attention to the relationship between children's rights and the environment

7. The international community has long recognized that environmental harm interferes with the full enjoyment of the rights of children. The Convention on the Rights of the Child, adopted in 1989, requires its parties to pursue full implementation of children's right to

health by taking measures, among others, to combat disease and malnutrition through "the provision of adequate nutritious foods and clean drinking-water, taking into consideration the dangers and risks of environmental pollution" (art. 24 (2) (c)).

8. In the World Declaration on the Survival, Protection and Development of Children, adopted at the World Summit for Children in 1990, States recognized that millions of children suffer from environmental degradation, and committed to work for common measures for the protection of the environment, at all levels, so that all children can enjoy a safer and healthier future (see A/45/625, annex, paras. 5 and 20 (9)). The World Programme of Action for Youth to the Year 2000 and Beyond, adopted in 1995, includes specific environmental initiatives and states that implementation of the Programme of Action requires the full enjoyment by young people of all human rights and fundamental freedoms (see General Assembly resolution 50/81, annex, para. 20). States reiterated the importance of environmental protection in the document entitled "A world fit for children", adopted in 2002, one of whose ten principles and objectives is to "protect the Earth for children" (see General Assembly resolution S-27/2, annex, para. 7).

9. At the national level, many States reported to the Special Rapporteur that they have taken innovative steps to recognize and protect children's rights to live in a healthy environment. For example, the Plurinational State of Bolivia, El Salvador, Mexico and Paraguay have introduced national legislation that recognizes the right of children to a healthy, ecological and sustainable environment. Denmark, Saudi Arabia and Slovenia have adopted measures to protect children's health from environmental degradation and chemicals. Serbia is using the media to raise children's awareness about environmental issues, and Germany is promoting their participation in environmental initiatives. Many States, including Australia, Azerbaijan, El Salvador, France, Georgia, the State of Palestine, the Philippines and Switzerland, report that they have introduced measures to improve children's environmental education. Oman and Qatar have each designated a "national day of the environment" through which they raise awareness about the environment among children and promote children's participation in environmental activities.[1]

10. The Human Rights Council has often drawn attention to the effects of climate change on the rights of children. In its resolution 32/33, it recognized that children are among the most vulnerable to climate change, which may have a serious impact on their enjoyment of the highest attainable standard of physical and mental health, access to education, adequate food, adequate housing, safe drinking water and sanitation. In its resolution 35/20, it emphasized that climate change affects some children more than others, including children with disabilities, children on the move, children living in poverty, children separated from their families and indigenous children. In resolution 32/33, the Council called on States to continue and enhance international cooperation and assistance for adaptation measures to help developing countries, especially those that are particularly vulnerable to the adverse effects of climate change and persons in vulnerable situations, including children most at risk.

11. In recent years, human rights experts have begun to examine more closely the effect of environmental harm on the enjoyment of children's rights. In 2015, the United Nations Children's Fund (UNICEF) published a report on the effects of climate change on children.[2] In August 2016, the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, Baskut Tuncak, issued a report describing the "silent pandemic" of disability and disease associated with childhood exposure to toxics and pollution, and explaining the obligations of States and the responsibilities of business enterprises to protect against such exposure (A/HRC/33/41). At the request of the Human Rights Council, the Office of the United Nations High Commissioner for Human Rights (OHCHR) issued a report in May 2017 on the relationship between climate change and the rights of the child (A/HRC/35/13).

[1] All of the submissions are available at www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/RepliesEnvironmentAndRightsChild.aspx.

[2] UNICEF, *Unless we act now: The impact of climate change on children* (November 2015).

12. The Committee on the Rights of the Child has also given increasing attention to the relationship of environmental protection and children's rights. The Committee often addresses environmental concerns in its review of country reports under the Convention.[3] At its day of general discussion on 23 September 2016, the Committee brought together over 250 participants, including children, representatives of Governments, civil society organizations, United Nations agencies and academics, to examine the effects of environmental harm on the rights of children, both directly and through aggravating underlying causes of serious violations through conflict over limited resources, increasing inequalities, forced migration and even early marriage.[4]

13. The Committee on the Rights of the Child, UNICEF, other special procedures, States and civil society organizations, among others, continue to study and clarify the relationship of children's rights and the environment. The Special Rapporteur hopes that the present report will contribute to that ongoing discussion by providing an overview of the principal effects of environmental harm on the rights of children and outlining the corresponding obligations of States.

III. The effects of environmental harm on the rights of children

14. This section describes first the effects of environmental harm on children's well-being, and then how those effects interfere with the enjoyment of their human rights, including their rights to life, health and development, to an adequate standard of living and to play and recreation.

A. The effects of environmental harm on children

15. Taken as a whole, no group is more vulnerable to environmental harm than children (persons under the age of 18), who make up 30 per cent of the world's population. Environmental harm has especially severe effects on children under the age of 5. Of the 5.9 million deaths of children under the age of 5 in 2015, the World Health Organization (WHO) estimates that more than one quarter — more than 1.5 million deaths — could have been prevented through the reduction of environmental risks.[5] In addition, one quarter of the total disease burden in children under the age of 5 is attributed to environmental exposures.[6] Childhood exposure to pollutants and other toxic substances also contributes to disabilities, diseases and premature mortality in adulthood.

1. Air pollution

16. Air pollution causes approximately 600,000 deaths of children under the age of 5 every year.[7] Countless more children suffer disease and disability, often with lifelong effects. Children are more susceptible to air pollution than adults for many reasons, including that their smaller respiratory airways are more easily blocked by infections, and that they breathe more quickly and take in more air per unit of body weight.[8] Because their

[3] The Special Rapporteur compiled statements of the Committee on the Rights of the Child on environmental issues in "Mapping human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment: individual report on the United Nations Convention on the Rights of the Child" (December 2013). Available at http://srenvironment.org/mapping-report-2014-2/.

[4] Committee on the Rights of the Child, "Report of the 2016 day of general discussion: children's rights and the environment", p. 5. Available from www.ohchr.org/EN/HRBodies/CRC/Pages/Discussion2016.aspx.

[5] WHO, "Don't pollute my future! The impact of the environment on children's health" (Geneva, 2017), p. 1.

[6] Ibid., p. 22.

[7] Ibid., p. 3. Roughly 500,000 of these deaths are attributed to household air pollution and 100,000 to ambient air pollution. See UNICEF, *Clear the air for children: The impact of air pollution on children* (2016), p. 24.

[8] UNICEF, *Clear the air for children*, pp. 8 and 40.

immune systems are still developing, they are at higher risk of respiratory infections and have less ability to combat them.[9]

17. Ambient air pollution mainly results from factories and vehicles, and household air pollution comes primarily from the use of wood, coal and other solid fuels for cooking and heating. The vast majority of children — about 2 billion — live in areas that exceed the WHO ambient standard for particulate matter, and 300 million children live in areas whose ambient air pollution exceeds international standards by six times or more.[10] Over 1 billion children around the world live in homes that use solid fuels for cooking and heating.[11] WHO has estimated that together, ambient and household air pollution cause more than one half of all lower respiratory infections, such as pneumonia and bronchitis, in children under 5 in low- and middle-income countries, and that lower respiratory infections accounted for 15.5 per cent of deaths of all children under the age of 5 in 2015.[12]

18. Children who survive early exposure to air pollution can still suffer from it throughout their lives: it can disrupt their physical and cognitive development and make them more prone to lung cancer, asthma, other respiratory diseases and cardiovascular diseases.[13] The harm from air pollution begins before birth. As the Special Rapporteur on hazardous substances and wastes has said, children are often born "pre-polluted" because of their mothers' exposure to pollutants during pregnancy, which is associated with preterm delivery, lower birthweight and early fetal loss (see A/HRC/33/41, paras. 5 and 16).[14]

2. Water pollution

19. Water pollution resulting primarily from unsafe sanitation practices contributes to diarrhoeal diseases that cause more than 350,000 deaths a year of children under 5 years old, and another 80,000 deaths of children aged 5 to 14.[15] Water pollution also contributes to intestinal and parasitic infections such as schistosomiasis, which gravely affect the physical and cognitive development of children.[16] These infections, as well as diarrhoea, impair the proper functioning of the digestive system and prevent the absorption of nutrients essential for growth and development.[17] Lack of access to safe water also increases the incidence of other diseases, including trachoma, the main preventable cause of blindness.[18] More generally, unsafe water contributes to food insecurity, malnutrition and stunting of children.[19] UNICEF stated in 2013 that approximately 165 million children under 5 suffer from stunting as a result of inadequate nutrition and unhealthy water and sanitation.[20] Stunted children are not only shorter than they should be for their age; they suffer harm throughout their lives, including weaker immune systems and reduced brain development.

20. Children are particularly at risk from water pollution, like air pollution, because their bodies are still developing. In addition, they drink more water than adults in relation to their body weight, and they absorb a greater proportion of some waterborne chemicals.[21]

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[9] Ibid., pp. 9 and 40.

[10] Ibid., pp. 8 and 60.

[11] Ibid., p. 9.

[12] WHO, "Don't pollute my future!", pp. 2–3.

[13] UNICEF, *Clear the air for children*, pp. 29–32; WHO, "Don't pollute my future!", p. 8.

[14] See also UNICEF, *Clear the air for children*, pp. 8 and 43–44; WHO, *Inheriting a sustainable world? Atlas on children's health and the environment* (Geneva, 2017), p. 49.

[15] WHO, "Don't pollute my future!", pp. 3 and 13.

[16] Ibid., p. 5.

[17] WHO, *Inheriting a sustainable world?*, p. 25.

[18] WHO, *Preventing disease through healthy environments: A global assessment of the burden of disease from environmental risks* (Geneva, 2016), p. 22; WHO, *Inheriting a sustainable world?*, p. 26.

[19] WHO, "Don't pollute my future!", p. 6; WHO, *Inheriting a sustainable world?*, pp. 10–11.

[20] UNICEF, "Sustainable development starts and ends with safe, healthy and well-educated children" (May 2013), p. 8.

[21] WHO, *Inheriting a sustainable world?*, p. 25.

Children spend more time than adults playing in water bodies that are unclean, and they may be less able than adults to recognize or act upon environmental risks.[22]

21. Between 1990 and 2015, as the number of people without access to an improved source of water fell from over 2 billion to approximately 660 million, the number of diarrhoeal deaths of children under 5 years more than halved.[23] Some waterborne diseases, such as guinea worm, have been nearly eradicated. But much more remains to be done. At least one in every four people around the world still drinks water that is faecally contaminated.[24] Proper management of water sources is also critical to reducing vector-borne diseases such as malaria. Although the number of malarial deaths of children under 5 decreased by more than one half between 2000 and 2015, malaria still caused approximately 300,000 deaths in 2015, accounting for one in every ten child deaths in sub-Saharan Africa.[25]

3. Climate change

22. The Executive Director of UNICEF has stated that "there may be no greater, growing threat facing the world's children — and their children — than climate change".[26] As explained in the 2017 OHCHR report (A/HRC/35/13), climate change contributes to extreme weather events, water scarcity and food insecurity, air pollution and vector-borne and infectious diseases, all of which already have severe effects on children.

23. For example, climate change increases the frequency and severity of droughts, and approximately 160 million children already live in areas of high or extremely high drought severity.[27] Because children need to consume more food and water per unit of body weight than adults, they are more vulnerable to the deprivation of food and water, which can lead to irreversible stunting.[28] Water scarcity leads to the use of unsafe water, which in turn contributes to communicable diseases.[29]

24. Climate change also contributes to severe storms and flooding. More than 500 million children live in areas, mostly in Asia, that have extremely high likelihoods of flooding, and approximately 115 million live in zones of high or extremely high risk of tropical cyclones.[30] Beyond the immediate dangers of death and injury, severe storms and floods cause a cascade of additional harms, including compromising safe water supplies, damaging sanitation facilities and destroying housing. Like droughts, floods can cause massive displacement. Children are particularly vulnerable during displacements, when the loss of connections to families, communities and protective services can increase their vulnerability to abuses including child labour and trafficking.[31]

25. Climate change has many other harmful effects on human health, including increasing the frequency and severity of heatwaves, compounding the toxicity of fossil-fuel pollutants such as ozone and contributing to wildfires.[32] Children are, again, more vulnerable to all of these effects. For example, UNICEF has indicated that "infants and small children are more likely to die or suffer from heatstroke because they are unable or lack agency to regulate their body temperature and control their surrounding environment".[33] Over the longer term, rising temperatures and changing rainfall patterns are likely to exacerbate the spread of vector-borne diseases such as malaria, dengue and cholera,[34] and contribute to food scarcity and undernutrition. WHO estimates that by 2030,

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[22] Ibid., pp. 25–26.
[23] Ibid., p. 24.
[24] Ibid.
[25] Ibid., p. 38.
[26] UNICEF, *Unless we act now*, p. 6.
[27] Ibid., p. 22.
[28] Ibid.
[29] Ibid.
[30] Ibid., pp. 30 and 34.
[31] Ibid.
[32] Ibid., pp. 40 and 44.
[33] Ibid., p. 40.
[34] Ibid., pp. 48–52.

the effects of climate change on nutrition will result in an additional 7.5 million children who are moderately or severely stunted, and approximately 100,000 additional deaths.[35]

26. The ramifications of climate change for children go far beyond its effects on their health, as disastrous as those may be. As OHCHR has stated, "climate change heightens existing social and economic inequalities, intensifies poverty and reverses progress towards improvement in children's well-being" (see A/HRC/35/13, para. 50). To give just one example, climate change-induced food insecurity is already increasing the number of marriages of girl children, who are pressured to marry to reduce burdens on their families of origin.[36]

4. Chemicals, toxic substances and waste

27. The 2016 report of the Special Rapporteur on hazardous substances and wastes describes the harms to children from exposure to chemicals, toxic substances and waste. He states that the number of deaths from air and water pollution is only one part of a silent pandemic of disability and disease, much of which may not manifest for years or decades (see A/HRC/33/41, para. 4). The rapid growth of hazardous chemicals in the environment has occurred together with increasing incidence of cancer, diabetes and asthma, among other diseases. More than 800 chemicals have been identified as known or suspected disruptors of the normal functioning of human and/or animal endocrine systems, and humans are most sensitive to endocrine disruption during periods of development, including early childhood and puberty.[37] Children begin their exposure to toxic substances before birth; hundreds of hazardous chemicals have been found in children as a result of their mother's exposure, resulting in the children being born "pre-polluted" (see A/HRC/33/41, para. 5). He emphasizes that children in low-income, minority, indigenous and marginalized communities are at more risk, as exposure levels in such communities are often higher and are exacerbated by malnutrition, with the adverse effects inadequately monitored (ibid., para. 6).

28. Although the connection between exposure to a particular toxic substance and the harm to an individual is not always traceable, in large part because information about exposure to and effects of these substances is typically not required or provided, some effects are clear. For example, lead poisoning causes irreversible intellectual disabilities in 600,000 children annually (ibid., para. 9). Artisanal and small-scale mining, in which approximately 1 million children participate, commonly employs mercury, which causes lifelong harm to the developing nervous systems of children, as well as contributing to cardiovascular and other diseases.[38] Discarded mobile telephones and other electronic products are often shipped from high-income to lower-income countries. Children are often employed to extract valuable elements from these products, without protective equipment, exposing themselves to toxic substances such as lead, mercury, cadmium, chromium and arsenic.[39]

29. Another increasing source of harm is the use of pesticides, the subject of a recent joint report by the Special Rapporteur on hazardous substances and wastes and the Special Rapporteur on the right to food. They state that exposure to even low levels of pesticides, for example through wind drift or residues on food, may be very damaging to children's health, disrupting their mental and physiological growth and possibly leading to a lifetime of diseases and disorders (see A/HRC/34/48, para. 24). The effects of pesticides and of chemicals ingested other ways, including through food, may include asthma, cancer and neurological damage.[40]

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[35] WHO, *Quantitative risk assessment of the effects of climate change on selected causes of death, 2030s and 2050s* (Geneva, 2014), pp. 80 and 89.

[36] Gethin Chamberlain, "Why climate change is creating a new generation of child brides", *Guardian*, 26 November 2017; Human Rights Watch, "Marry before your house is swept away: child marriage in Bangladesh", 9 June 2015.

[37] WHO, "Don't pollute my future!", p. 6.

[38] WHO, *Inheriting a sustainable world?*, pp. 81–82.

[39] Ibid., p. 88.

[40] Ibid., pp. 67 and 72.

5. The loss of biodiversity and access to nature

30. Biological diversity (biodiversity) is necessary for healthy ecosystems, which in turn are necessary for the full enjoyment of human rights (see A/HRC/34/49). Although everyone in the world depends on ecosystems, some depend more directly than others. Indigenous peoples and traditional communities that rely on forests, fisheries and other natural ecosystems for their material subsistence and cultural life suffer disproportionately when those ecosystems are destroyed or degraded. More generally, decreasing biodiversity and the loss of access to the natural environment affect many children around the world. Interaction with microbial diversity is critical to the development of healthy immune systems,[41] and the loss of such microbial diversity is apparently causing autoimmune diseases, allergic disorders and other non-communicable inflammatory diseases to become more prevalent in all parts of the world.[42] Exposure to nature also has beneficial effects on mental health,[43] but many children, especially in urban settings, have little or no contact with the natural environment.

B. Environmental harm and the rights of children

31. Environmental harm interferes with the full enjoyment of a vast range of the rights of the child. This section focuses on the effects on children's rights to life, health, development, an adequate standard of living, play and recreation.[44]

1. Rights to life, health and development

32. The Human Rights Committee has stated that the right to life should not be interpreted narrowly, and that the protection of the right requires States to adopt positive measures, such as measures to reduce infant mortality and increase life expectancy.[45] The Convention on the Rights of the Child recognizes that every child has the inherent right to life and provides that States shall ensure to the maximum extent possible not only the survival, but also the development of the child (art. 6). The Convention also recognizes the right to the highest attainable standard of health (art. 24), as do the Constitution of WHO and the International Covenant on Economic, Social and Cultural Rights (art. 12).

33. A healthy environment is necessary for children's enjoyment of the rights to life, development and health.[46] The Convention on the Rights of the Child requires States parties to pursue full implementation of the right to health by appropriate measures that include the provision of nutritious foods and clean drinking water, taking into consideration the dangers and risks of environmental pollution (art. 24 (2) (c)). As explained above, environmental harm causes the death of over 1 million children every year, most under the age of 5 years old. It also contributes to lifelong health problems, including asthma and other respiratory diseases, cardiovascular disease, cancer and neurological disorders. Climate change and the loss of biological diversity are long-term environmental crises that will affect children

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[41] Paul Sandifer, Ariana Sutton-Grier and Bethney Ward, "Exploring connections among nature, biodiversity, ecosystem services, and human health and well-being: opportunities to enhance health and biodiversity conservation", *Ecosystem Services*, vol. 12 (April 2015), pp. 1 and 7.

[42] WHO and Secretariat of the Convention on Biological Diversity, *Connecting Global Priorities: Biodiversity and Human Health — A State of Knowledge Review* (2015), p. 150.

[43] Sandifer, Sutton-Grier and Ward "Exploring connections", p. 3; see also Committee on the Rights of the Child, general comment No. 17 (2013) on the right of the child to rest, leisure, play, recreational activities, cultural life and the arts, para. 40.

[44] This is not an exhaustive list. The enjoyment of other rights, such as the rights to education and culture, are also implicated by climate change, natural disasters and other types of environmental harm. See, for example, A/HRC/35/13, para. 29. And the disproportionate effects on children already vulnerable for other reasons implicate obligations of non-discrimination, as explained below.

[45] See Human Rights Committee, general comment No. 6 (1982) on the right to life, para. 5.

[46] See Committee on Economic, Social and Cultural Rights, general comment No. 14 (2000) on the right to the highest attainable standard of health, para. 4; Committee on the Rights of the Child, general comment No. 7 (2005) on implementing child rights in early childhood, para. 10; general comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health, para. 2.

throughout their lives. There can be no doubt that environmental harm interferes with children's rights to life, health and development.

2. Right to an adequate standard of living

34. The Committee on Economic, Social and Cultural Rights has explained that the right to an adequate standard of living is intentionally expansive and that the Covenant includes a number of rights emanating from, and indispensable for, the realization of the right,[47] such as the rights to food, housing and safe and clean water and sanitation. The Convention on the Rights of the Child links the right to the development of children, recognizing the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development (art. 27).

35. Environmental degradation obviously interferes with the enjoyment of the rights to food, housing, water and sanitation, and to an adequate standard of living generally. The lack of clean air and water, the exposure to hazardous chemicals and waste, the effects of climate change and the loss of biodiversity not only prevent children from enjoying their rights today; by interfering with their normal development, environmental harm prevents them from enjoying their rights in the future, and often throughout their lives.

3. Rights to play and recreation

36. The Convention on the Rights of the Child recognizes the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts (art. 31). As the Committee on the Rights of the Child has explained, play and recreation are essential to the health and well-being of children and promote the development of creativity, imagination, self-confidence and self-efficacy, as well as physical, social, cognitive and emotional strength and skills.[48] In addition to being of intrinsic value to children, play and recreation are critical to development, facilitating children's capacities to negotiate, regain emotional balance, resolve conflicts and make decisions. Through their involvement in play and recreation, children learn by doing; they explore and experience the world around them; experiment with new ideas, roles and experiences and in so doing, learn to understand and construct their social position within the world.[49]

37. Opportunities for play and recreation depend upon access to a healthy and safe environment.[50] Many children, and the vast majority of children living in poverty, face hazardous conditions when they leave their homes, including polluted water, open waste sites, toxic substances and the lack of safe green spaces.[51] While children will seek out opportunities for play and recreation even in dangerous environments, children who cannot play outside without exposing themselves to such environmental harms cannot fully enjoy their right to play and recreation. Even when their immediate surroundings are safe, the millions of children who live in urban settings often lack access to natural environments.

IV. Human rights obligations relating to the protection of children from environmental harm

38. The human rights obligations of States in relation to the environment[52] apply with particular force to the rights of children, who are especially at risk from environmental harm and often unable to protect their own rights. Although these obligations arise from a wide variety of sources, the present report gives particular attention to the Convention on the Rights of the Child because of its focus on children and its near-universal acceptance by

[47] See Committee on Economic, Social and Cultural Rights, general comment No. 15 (2002) on the right to water, para. 3.

[48] See Committee on the Rights of the Child, general comment No. 17, para. 9.

[49] Ibid.

[50] Ibid., para. 26.

[51] Ibid., para. 35.

[52] For a summary of the obligations, see the framework principles on human rights and the environment presented to the thirty-seventh session of the Council (A/HRC/37/59, annex).

States. The present section focuses on key educational and procedural obligations, including with respect to information, participation and remedy; substantive obligations, including the obligation to ensure that the best interests of children are a primary consideration; and obligations of non-discrimination.

A. Educational and procedural obligations

39. The obligations of States in relation to the environment include duties in relation to education and public awareness, to access to public information and assessment of proposed projects and policies, to expression, association and public participation in environmental decision-making and to remedies for harm (see A/HRC/37/59, annex, framework principles 5–10). These obligations have bases in civil and political rights, but they have been clarified and extended in the environmental context on the basis of the entire range of human rights threatened by environmental harm. Fulfilling these rights helps to ensure that, when possible, children have agency to influence environmental policy and protect themselves from environmental harm.

1. Obligations of environmental education

40. In the Convention on the Rights of the Child, States parties agreed that the education of the child shall be directed to, among other things, the development of respect for the natural environment (art. 29).[53] Environmental education should begin early in the child's educational process, reflect the child's culture, language and environmental situation, and increase the child's understanding of the relationship between humans and the environment (see A/HRC/37/59, annex, framework principle 6). It should help children appreciate and enjoy the world and strengthen their capacity to respond to environmental challenges, including by encouraging and facilitating direct experience with the natural environment.[54]

41. The Committee on the Rights of the Child has stated that in order to develop respect for the natural environment, education must link issues of environment and sustainable development with socioeconomic, sociocultural and demographic issues, and that such respect should be learned by children at home, in school and within the community, encompass both national and international problems, and actively involve children in local, regional or global environmental projects.[55] The Committee has also stressed that for educational curricula to reflect this and the other principles reflected in article 29 of the Convention, it is essential to have pre-service and in-service training for teachers and others involved in children's education.

2. Obligations of information and assessment

42. The Convention on the Rights of the Child states that the child's right to freedom of expression "shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of the child's choice" (art. 13). The right to information is particularly important in relation to environmental issues. Public access to environmental information enables individuals to understand the effect of environmental harm on their rights, including their rights to life and health, and supports the exercise of other rights, such as rights to expression, participation and remedy.[56]

43. Access to environmental information has two dimensions: States should regularly collect, update and disseminate environmental information, and they should provide affordable, effective and timely access to environmental information held by public authorities (see A/HRC/37/59, annex, framework principle 7). In situations involving

[53] In addition, target 4.7 of the Sustainable Development Goals calls on States to ensure, by 2030, that "all learners acquire the knowledge and skills needed to promote sustainable development".

[54] Committee on the Rights of the Child, "Report of the 2016 day of general discussion", pp. 18–19.

[55] See Committee on the Rights of the Child, general comment No. 1 (2001) on the aims of education, para. 13.

[56] See Committee on the Rights of the Child, general comment No. 12 (2009) on the right of the child to be heard, para. 82.

imminent threat of environmental harm, either from natural or human causes, States must ensure that all information that would enable the public to take protective measures is disseminated immediately.

44. The 2016 day of general discussion held by the Committee on the Rights of the Child identified many gaps in information on the effects of environmental harm on children, including: a lack of robust data on actual exposure of children to various types of environmental harm in light of their vulnerabilities and real-life conditions; a lack of longitudinal data on the effects of environmental harm on children's health and development at different ages; a lack of disaggregated data on children most at risk; and a lack of information about the adverse effects of the loss of biodiversity and degradation of ecosystems.[57] In addition to these general gaps, the Special Rapporteur on hazardous substances and wastes has pointed out that information about health risks and possible sources of exposure is neither available nor accessible to parents and guardians for tens of thousands of substances manufactured and used by industries in food and consumer products, which often end up contaminating air and water (see A/HRC/33/41, para. 59). When information about the effects of particular chemicals or other substances is held by corporations, they often argue that it cannot be made public for reasons of confidentiality. Finally, when information about environmental effects is public, it is often available only in technical terms that are difficult or impossible for non-experts to understand.

45. Much more must be done to collect information about sources of environmental harm to children and to make it publicly available and accessible. The Committee on the Rights of the Child has stressed that information relevant to children should be provided in a manner appropriate to their age and capacities.[58] Because children are exposed to many environmental harms at young ages, or even before birth, information must also be made available to parents or other caretakers in forms that are easily accessible, understandable and relevant. For example, information about chemicals and other hazardous substances should focus not just on those that are the most commonly produced, but also on those that are most likely to affect children, and should include clear descriptions not only of the possible effects, but also of how children may be exposed to them.

46. Obligations concerning environmental information are closely related to the need for assessment of environmental impacts. To avoid undertaking or authorizing actions with environmental impacts that interfere with the full enjoyment of human rights, States should require the prior assessment of the possible environmental impacts of proposed projects and policies, including their potential effects on the enjoyment of the human rights of children (see A/HRC/37/59, annex, framework principle 8). While environmental impact assessment is now practised throughout the world, most assessment procedures do not address the rights of children, either by taking into account their greater vulnerability to harm or by providing for their participation. To ensure that the best interests of the child are a primary consideration in the development and implementation of policies and projects that may affect children, States should carry out "child-rights impact assessment", which examines the impacts on children of proposed measures and makes recommendations for alternatives and improvements. After implementation, authorities should evaluate the actual impact of the measure on children.[59]

3. Obligations to consider the views of children

47. The Convention on the Rights of the Child requires States parties to "assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child" (art. 12). The Committee on the Rights of the Child has called the right of children to be heard and be taken seriously, one of the

[57] Committee on the Rights of the Child, "Report of the 2016 day of general discussion", p. 16.

[58] See Committee on the Rights of the Child, general comment No. 12, para. 82.

[59] See Committee on the Rights of the Child, general comment No. 14 (2013) on the right of the child to have his or her best interests taken as a primary consideration, para. 99; general comment No. 5 (2003) on general measures of implementation of the Convention, para. 45.

four general principles of the Convention, which should be considered in the interpretation and implementation of other rights.[60]

48. The Committee's point that the views of children may add relevant perspectives and experience is especially relevant with respect to environmental harm.[61] Children are not experts in air pollution, water management or toxicology, but neither are most adults. Once children have reached a certain level of maturity,[62] they are capable of forming opinions and expressing views on proposals for measures that may affect them. Moreover, like adults, they know better than anyone else the circumstances of their own lives. They can provide invaluable insights, for example, into their use of water sources outside the home; the effectiveness of warnings about environmental hazards; and their access to green spaces and natural ecosystems.[63] In particular, the views of children should be taken into account with respect to long-term environmental challenges, such as climate change and the loss of biodiversity, that will shape the world in which they will spend their lives.

49. The Committee has explained how to implement the participatory rights of children, including through children's hearings, children's parliaments, children-led organizations, children's unions or other representative bodies, discussions at school, social networking websites, and so forth.[64] It has made clear that all processes in which a child or children are heard and participate must be, among other things, voluntary, respectful and transparent, provide children with age-appropriate information, provide appropriate support to children according to their age and evolving capacities, and encourage the participation of marginalized children.[65]

50. States must protect children from risks of violence or other reprisals for participating in these processes or otherwise expressing their views on environmental matters. Adults who speak out on environmental issues are often at risk of harassment, violence and death.[66] Children are not exempt from such dangers. For example, the Special Rapporteur was concerned to learn that a 15-year-old girl was sued by a mining company for criminal defamation after she expressed her concerns that mining activities were causing water contamination that harmed her community.[67] Eventually, the charges against her were dismissed, but only after months of protests and litigation. The Committee on the Rights of the Child has urged States to ensure conditions for an active and vigilant civil society, refrain from interfering with independent organizations and facilitate their involvement.[68] With respect to child activists, in particular, States should make heightened efforts to ensure that they can express their views freely, without fear of retaliation.

4. Obligation to provide for effective remedies

51. The Universal Declaration of Human Rights (art. 8), the International Covenant on Civil and Political Rights (art. 2 (3)) and many other human rights instruments provide that States have obligations to provide for effective remedies for violations of human rights. Children are included in these protections. Although the Convention on the Rights of the

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[60] See Committee on the Rights of the Child, general comment No. 12, para. 2. The other three are the right to non-discrimination, the right to life and development, and the primary consideration of the best interests of the child.

[61] Ibid., para. 12.

[62] According to the Committee, maturity refers to the ability to understand and assess the implications of a particular matter, and must therefore be considered when determining the individual capacity of a child. Maturity is difficult to define; in the context of article 12, it is the capacity of a child to express her or his views on issues in a reasonable and independent manner. Ibid., para. 30.

[63] See, for example, Committee on the Rights of the Child, general comment No. 17, para. 19, which underlines the importance of involving children in the development of parks.

[64] See Committee on the Rights of the Child, general comment No. 14, para. 91.

[65] See Committee on the Rights of the Child, general comment No. 12, para. 134.

[66] See the report by the Special Rapporteur entitled "Environmental human rights defenders: a global crisis", at www.universal-rights.org. See also the report of the Special Rapporteur on the situation of human rights defenders, which focuses on environmental defenders (A/71/281).

[67] Prachatai, "Mine operator sues high school student for criminal defamation", 14 December 2015. Available at https://prachatai.com/english/node/5693.

[68] See Committee on the Rights of the Child, general comment No. 16, para. 84.

Child does not have an explicit provision on remedies, the requirement of effective remedies to redress violations is implicit in the Convention. To provide for effective remedies, States should ensure that individuals have access to judicial and administrative procedures that meet basic requirements, including that the procedures are impartial, independent, affordable, transparent and fair (see A/HRC/37/59, annex, framework principle 10). Decisions should be made public and promptly and effectively enforced. States should provide guidance about how to seek access to justice, and should help to overcome obstacles to access such as language, illiteracy, expense and distance.

52. Because children's dependent status creates obstacles to their pursuit of remedies, the Committee on the Rights of the Child has made clear that States need to give particular attention to ensuring that there are effective, child-sensitive procedures available to children and their representatives. These should include the provision of child-friendly information, advice, advocacy, including support for self-advocacy, and access to independent complaints procedures and to the courts with necessary legal and other assistance. Where rights are found to have been breached, there should be appropriate reparation, including compensation, and, where needed, measures to promote physical and psychological recovery, rehabilitation and reintegration, as required by article 39.[69]

53. In the context of environmental harm, children may face additional barriers to access to justice. For example, they and their representatives may lack information about the effects of particular harms or the harms may manifest only years after exposure, which may make it difficult or impossible for those affected to have standing to bring a case, meet applicable limitations periods or carry their burdens of proof and persuasion.[70] States should take steps to overcome these obstacles, including by allowing collective suits (or "class actions") on behalf of children. Moreover, when determining the level or form of reparation, mechanisms should take into account that children can be more vulnerable to the effects of abuse of their rights than adults and that the effects can be irreversible and result in lifelong damage. They should also take into account the evolving nature of children's development and capacities and reparation should be timely to limit ongoing and future damage to the child or children affected; for example, if children are identified as victims of environmental pollution, immediate steps should be taken by all relevant parties to prevent further damage to the health and development of children and repair any damage done.[71]

54. Because environmental harm can cause irreversible effects, such as early mortality or lifelong disability, for which no remedies are truly adequate, States must do what they can to prevent the harm from occurring in the first place. In some cases, that may be possible through injunctive relief ordered by judicial tribunals or administrative bodies. In addition, States must adopt and enforce effective regulatory measures, as described in the following section.

B. Substantive obligations to protect children from environmental harm

55. Ideally, States would set substantive environmental standards at levels that would prevent all harmful environmental interference with the full enjoyment of human rights. While States have obligations to take deliberate, concrete and targeted measures towards that goal, they have some discretion in deciding which means are appropriate in light of available resources.[72] However, this discretion is not unlimited. For example, environmental standards must comply with obligations of non-discrimination, and they should take into account relevant international health and safety standards (see A/HRC/37/59, annex, framework principle 11). Once States have adopted substantive environmental standards, they should ensure their effective implementation by private as well as public actors (ibid., framework principle 12).

[69] See Committee on the Rights of the Child, general comment No. 5, para. 24.

[70] Committee on the Rights of the Child, "Report of the 2016 day of general discussion", pp. 21–22.

[71] See Committee on the Rights of the Child, general comment No. 16, para. 31.

[72] See, for example, Committee on the Rights of the Child, general comment No. 15, para. 72.

56. The discretion of States with respect to the protection of children's rights is further restricted by their obligations under the Convention on the Rights of the Child and other agreements to adopt and implement special measures of protection, assistance and care for children, and to ensure that the best interests of children are a primary consideration in all actions concerning children.[73] These obligations require States not just to protect children from harm, but also to ensure their well-being and development, including by taking into account the possibility of future risk and harm.[74]

57. The discretion accorded States in deciding appropriate levels of environmental protection rests on the assumption that societies will make informed decisions as to how to balance the costs of environmental harm against the benefits of spending resources for other goals, such as faster short-term economic growth. But the cost-benefit calculus is very different for children, especially younger children. The consequences of environmental harm are usually far more severe, and may include death or irreversible, lifelong effects. The cumulative effects of long-term environmental harm, such as climate change and the loss of biodiversity, increase over time, so that decisions taken today will affect children much more than adults. The lack of full information about many types of environmental harm means that their long-term effects are often poorly understood and underestimated. And, finally, the voices of children are only rarely heard in environmental decision-making.

58. Therefore, to satisfy their obligations of special protection and care, and to ensure that the best interests of the child are taken into account, States have heightened obligations to take effective measures to protect children from environmental harm. They should make certain that they are protecting children's rights before they make decisions that may cause environmental harm, including by: collecting and disseminating disaggregated information on the effects of pollution, chemicals and other potentially toxic substances on the health and well-being of children; ensuring that the views of children are taken into account in environmental decision-making; and carrying out children's rights impact assessments. States should adopt and implement environmental standards that are consistent with the best available science and relevant international health and safety standards, and they should never take retrogressive measures.[75] The lack of full scientific certainty should never be used to justify postponing effective and proportionate measures to prevent environmental harm to children, especially when there are threats of serious or irreversible damage. On the contrary, States should take precautionary measures to protect against such harm.[76] Once standards protective of children's rights are adopted, States must ensure that they are effectively implemented and enforced. To that end, they must provide regulatory agencies with sufficient resources to monitor and enforce compliance with domestic laws, including by investigating complaints and bringing appropriate remedial actions.[77]

59. As part of their obligations to protect children from environmental harm, States must adequately regulate private actors, including business enterprises. Businesses can cause environmental harm to children's rights in many ways, including by producing hazardous products, polluting the air and water, creating hazardous waste, contributing to climate change and destroying forests and other natural ecosystems.[78] They can also commit human rights abuses such as violating child labour protections or colluding with governmental or private security forces to use violence against peaceful protestors.

60. As the Committee on the Rights of the Child has stated, States must take all necessary, appropriate and reasonable measures to prevent business enterprises from causing or contributing to abuses of children's rights.[79] This includes ensuring that businesses comply with all applicable environmental standards. States should require businesses, including State-owned businesses, to carry out "child-rights due diligence" to

[73] See Convention on the Rights of the Child, art. 3; International Covenant on Economic, Social and Cultural Rights, art. 10 (3).

[74] See Committee on the Rights of the Child, general comment No. 14, paras. 24 and 71.

[75] See Committee on the Rights of the Child, general comment No. 15, para. 72.

[76] See Rio Declaration on Environment and Development, principle 15.

[77] See Committee on the Rights of the Child, general comment No. 16, para. 61.

[78] Ibid., para. 19.

[79] Ibid., para. 28.

ensure that they identify, prevent and mitigate their impact on children's rights.[80] This due diligence should include careful consideration of the effects of their actual and proposed actions on the rights of children through environmental harm. States must also ensure that information held by businesses relevant to the health and well-being of children is made publicly available.

61. States should cooperate with one another to address the effects of global and transboundary harm on the rights of children.[81] For example, in the negotiation and implementation of multilateral environmental agreements, they should address children's rights, for example by providing that national action plans should include strategies to protect children as well as other vulnerable segments of the population.[82] States should work together to ensure that businesses operating in more than one country comply with their obligations under all applicable domestic laws. The Committee on the Rights of the Child has set out a framework for such cooperation: host States have the primary responsibility to regulate business enterprises operating within their territory, but home States can also have regulatory obligations when there is a reasonable link between the State and the conduct in question. For example, home States in such situations should assist host States with investigation and enforcement; enable access to effective remedies for children and their families who have suffered human rights abuses; and provide that their international assistance agencies identify and protect against harmful effects of any projects that they support.[83]

62. Businesses have direct responsibilities to respect children's rights. To meet these responsibilities, it is necessary, but not sufficient, that businesses comply with domestic laws. Certainly businesses should never seek to evade applicable laws through corruption or other practices, or abuse those laws by, for example, bringing criminal defamation suits against those who oppose their activities. But that is a low bar. To respect the rights of children to be free from environmental harm, businesses should comply with the Guiding Principles on Business and Human Rights; the Children's Rights and Business Principles;[84] and the recommendations of the Committee on the Rights of the Child in its general comment No. 16 (2013) on State obligations regarding the impact of the business sector on children's rights. Among other things, they should undertake environmental and human rights impact assessments that examine the effects of proposed actions on children; develop and make public information about the effects of their actions and products on the health and well-being of children; facilitate children's participation, as appropriate, in consultations; seek to strengthen environmental, health and safety standards, rather than lobby against them; and, in general, avoid causing or contributing to environmental harm to children and remediate any such harm when it does occur.

C. Obligations of non-discrimination

63. The Convention on the Rights of the Child requires its States parties to respect and ensure the rights in the Convention to each child within their jurisdiction without discrimination of any kind, irrespective of the child's or his or her parent's or legal guardian's race, colour, sex, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status (art. 2). Children are also encompassed by the non-discrimination obligations of States under many other human rights agreements, including the International Covenant on Civil and Political Rights (arts. 2 (1) and 26)) and the International Covenant on Economic, Social and Cultural Rights (art. 2 (2)).

64. The obligations of States to prohibit discrimination and to ensure equal and effective protection against discrimination undoubtedly apply to the equal enjoyment of human rights relating to a safe, clean, healthy and sustainable environment (see A/HRC/37/59, annex, framework principle 3). These obligations apply not only to direct discrimination, but also

[80] Ibid., para. 62.

[81] Ibid., para. 41.

[82] See, for example, Minamata Convention on Mercury, annex C, art. 1 (i).

[83] See Committee on the Rights of the Child, general comment No. 16, paras. 42–45.

[84] The Children's Rights and Business Principles were developed by UNICEF, the United Nations Global Compact and Save the Children, and released in 2012.

to indirect discrimination, when facially neutral laws, policies or practices have a disproportionate impact on the exercise of human rights as distinguished by prohibited grounds of discrimination.[85] The Committee on the Rights of the Child has emphasized that the right to non-discrimination does not just prohibit all forms of discrimination in the enjoyment of rights under the Convention, but also requires appropriate proactive measures taken by the State to ensure effective equal opportunities for all children to enjoy the rights under the Convention. This may require positive measures aimed at redressing a situation of real inequality.[86]

65. While all children are vulnerable to environmental harm, some are particularly at risk. To highlight just a few examples: girl children are more likely to suffer from the lack of clean and safe sources of water; indigenous children from the destruction of natural ecosystems on which they rely for food, water, housing and culture; children with disabilities from the failure to anticipate and respond safely and effectively to natural disasters; and children from low-income families from a vast range of environmental problems, including household air pollution, lack of clean water, exposure to toxic substances and a lack of access to safe and clean opportunities for play and recreation.

66. States should take effective measures to ensure that children in these and other particularly vulnerable situations are able to exercise their human rights on an equal basis, and that environmental harm does not affect them disproportionately. For example, States and business enterprises should require that their children's rights impact assessment procedures take fully into account the impacts of proposed policies, programmes and projects on the most vulnerable. Environmental educational programmes should reflect the cultural and environmental situation of the children involved. States should collect disaggregated data to identify disparate impacts of environmental harm on different groups of children.[87] Environmental information should be made available to children and their parents or other caretakers in their own language. States should ensure that girls, children with disabilities and children from marginalized communities are able to voice their views and that their views are given due weight.[88] States should take steps to enable children with disabilities, as well as others, to play and engage in recreational activities in safe and healthy environments.[89] Children at particular risk and their caretakers should be provided with assistance in accessing effective remedies.

V. Future generations

67. International environmental agreements and declarations on sustainable development often express concerns about the effects of environmental harm on future generations.[90] Indeed, the definition of sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[91] However, human rights law does not attempt to define the rights of future generations or of obligations of States to them. It is understandable that international environmental and development policy and human rights law take different approaches to

[85] See Committee on Economic, Social and Cultural Rights, general comment No. 20 (2009) on non-discrimination in economic, social and cultural rights, para. 7.

[86] See Committee on the Rights of the Child, general comment No. 14, para. 41.

[87] See, for example, Committee on the Rights of the Child, general comment No. 5, para. 12; general comment No. 9 (2006) on the rights of children with disabilities, para. 19; general comment No. 11 (2009) on indigenous children and their rights under the Convention, para. 26.

[88] See, for example, Committee on the Rights of the Child, general comment No. 12, paras. 77–78; general comment No. 9, para. 32; general comment No. 11, para. 39.

[89] See Convention on the Rights of Persons with Disabilities, art. 30; Committee on the Rights of the Child, general comment No. 17, para. 50.

[90] The many examples include the Rio Declaration on Environment and Development, principle 3; the United Nations Framework Convention on Climate Change, art. 3 (1); the Convention on Biological Diversity, preamble; Transforming our world: the 2030 Agenda for Sustainable Development.

[91] See the report of the World Commission on Environment and Development entitled "Our Common Future" (A/42/427, annex), ch. 2, para. 1 (p. 54). See also the report of the Secretary-General on intergenerational solidarity and the needs of future generations (A/68/322).

issues concerning future generations. While the former is concerned with the long-term as well as short-term consequences of present decisions, the latter is based primarily on the rights of individual human beings. It is difficult, if not impossible, to define the rights of individuals who are not yet alive.

68. Nevertheless, the division between present and future generations is less sharp than it sometimes appears to be. Concerns about future generations and sustainable development often focus on the state of the environment in particular years in the future, such as the year 2030 or 2100. Many people that will be living in 2100 are not yet born, and in that sense truly belong to future generations. But many people who will be living then are already alive today. To take a personal example, the Special Rapporteur has twin nieces who were born in 2016. The next century will begin before they celebrate their eighty-fourth birthday. Moreover, the line between future generations and today's children shifts every time another baby arrives and inherits their full entitlement of human rights. It is critical, therefore, that discussions of future generations take into account the rights of the children who are constantly arriving, or have already arrived, on this planet. We do not need to look far to see the people whose future lives will be affected by our actions today. They are already here.

VI. Conclusions and recommendations

69. **No group is more vulnerable to environmental harm than children. Air pollution, water pollution and exposure to toxic substances, together with other types of environmental harm, cause 1.5 million deaths of children under the age of 5 every year, and contribute to disease, disability and early mortality throughout their life. In addition, climate change and the loss of biodiversity threaten to cause long-term effects that will blight children's lives for years to come. Making matters worse, children are often not able to exercise their rights, including their rights to information, participation and access to effective remedies.**

70. **States must do more to respect, protect and fulfil the rights of children in relation to environmental harm. To that end, the present report includes a number of specific recommendations, which build on the work of other special rapporteurs, the Committee on the Rights of the Child, OHCHR, UNICEF, WHO and the many others who submitted oral and written communications during the preparation of the report.**

71. **With respect to children's educational and procedural rights, States should, among other things:**

(a) **Ensure that educational programmes increase children's understanding of environmental issues and strengthen their capacity to respond to environmental challenges;**

(b) **Ensure that the effects of proposed measures on children's rights are assessed before the measures are taken or approved;**

(c) **Collect information about sources of environmental harm to children and make the information publicly available and accessible;**

(d) **Facilitate the participation of children in environmental decision-making processes, and protect them from reprisals for their participation or otherwise expressing their views on environmental matters;**

(e) **Remove barriers that children face to access to justice for environmental harm to the full enjoyment of their human rights.**

72. **States also have heightened obligations to take effective substantive measures to protect children from environmental harm, including by ensuring that their best interests are a primary consideration with respect to all decision-making that may cause them environmental harm. In particular, States should adopt and implement environmental standards that are consistent with the best available science and relevant international health and safety standards, never take retrogressive measures,**

and pursue precautionary measures to protect against environmental harm, especially when there are threats of serious or irreversible damage.

73. **In this light, States should consider and, wherever possible, implement recommendations from expert agencies on specific measures to protect children's health and well-being from environmental harm.**[92] **WHO and UNICEF, in particular, have published detailed recommendations, including many examples of good practices.**[93] **Some simple changes could have enormous effects. For example, WHO states that widespread handwashing with soap after defecation and before preparing food would greatly reduce the incidence of diarrhoea, trachoma and respiratory infections that kill or harm so many children under the age of 5.**[94]

74. **States should cooperate to address the effects of environmental harm on the rights of children, including by sharing information on the toxicity and other characteristics of chemicals and other products and ensuring that international trade in chemicals and waste is in full compliance with the relevant environmental treaties.**

75. **With respect to the activities of business enterprises operating in more than one State, the States concerned should cooperate to ensure that the businesses comply with all applicable environmental laws, including by providing that victims of environmental harm allegedly caused by businesses have access to effective remedies in the courts of the States where the businesses are based as well as the States where the victims experienced the harm.**

76. **States should ensure that children in particularly vulnerable situations are able to exercise their human rights on an equal basis and that environmental harm does not affect them disproportionately, including by ensuring that impact assessment procedures take fully into account the effects of proposed policies, programmes and projects on the children most at risk.**

77. **States that have not yet done so should become parties to the Optional Protocol to the Convention on the Rights of the Child, and the State that has not yet ratified the Convention on the Rights of the Child should do so without further delay.**

78. **International financial mechanisms should ensure that the projects that they support do not cause environmental harm that adversely affects the rights of children, by including appropriate protections in their social and environmental safeguards.**

79. **Business enterprises should protect children's rights from environmental harm from their activities, including by carrying out environmental and human rights impact assessments that examine the effects of proposed actions on children, and by fully complying with the Guiding Principles on Business and Human Rights, the Children's Rights and Business Principles, and the recommendations of the Committee on the Rights of the Child in its general comment No. 16.**

80. **The Committee on the Rights of the Child should consider adopting a new general comment on children's rights and the environment.**

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[92] States should also implement the recommendations of the Special Rapporteur on hazardous substances and wastes with respect to the threats to children from toxic chemicals (see A/HRC/33/41, paras. 110–114), and those of OHCHR contained in its report on climate change and human rights (see A/HRC/35/13, paras. 57–66).

[93] See, for example, WHO, *Inheriting a sustainable world?*; WHO, "Don't pollute my future!"; UNICEF, *Clear the air for children*; UNICEF, *Unless we act now*.

[94] WHO, *Inheriting a sustainable world?*, p. 32, indicates that it is estimated that handwashing with soap could reduce diarrhoeal disease by 23 per cent and prevent 297,000 deaths per year from diarrhoea alone.